

Attorney Docket No.: 0180144

**In the Claims:**

**Claim 1 (previously presented):** A FET situated over a substrate, said FET comprising:

a channel situated in said substrate;

a first gate dielectric situated over said channel, said first gate dielectric having a first coefficient of thermal expansion;

a first gate electrode situated over said first gate dielectric, said first gate electrode having a second coefficient of thermal expansion;

wherein said first gate electrode and said first gate dielectric are selected such that said second coefficient of thermal expansion is greater than said first coefficient of thermal expansion so as to cause an increase in carrier mobility in said channel.

**Claim 2 (canceled)**

**Claim 3 (previously presented):** The FET of claim 1 wherein said increase in said carrier mobility is caused by a tensile strain created in said channel.

**Claims 4-5 (canceled)**

**Claim 6 (previously presented):** The FET of claim 1 wherein said first gate dielectric has a thickness of between 10.0 Angstroms and 15.0 Angstroms.

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**Claims 7-8 (canceled)**

**Claim 9 (previously presented):** A FET situated over a substrate, said FET comprising a channel situated in said substrate, a first gate dielectric situated over said channel, said first gate dielectric having a first coefficient of thermal expansion, a first gate electrode situated over said first gate dielectric, said first gate electrode having a second coefficient of thermal expansion, said FET being characterized in that:

said first gate dielectric and said first gate electrode being selected such that to have a difference between said first coefficient of thermal expansion and said second coefficient of thermal expansion causes an increase in carrier mobility in said channel, wherein said first gate dielectric has a thickness of between 10.0 Angstroms and 15.0 Angstroms.

**Claim 10 (original):** The FET of claim 9 wherein said second coefficient of thermal expansion is greater than said first coefficient of thermal expansion so as to cause a tensile strain in said channel, said tensile strain causing said increase in said carrier mobility.

**Claims 11-12 (canceled)**

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**Claim 13 (original):** The FET of claim 9 wherein said FET is a PFET, said first coefficient of thermal expansion being greater than said second coefficient of thermal expansion so as to cause a compressive strain in said channel, said compressive strain causing said increase in said carrier mobility.

**Claim 14 (canceled)**

**Claim 15 (previously presented):** A FET situated on a substrate, said FET comprising:

a channel situated in said substrate;

a gate stack situated over said channel;

a first gate dielectric situated in said gate stack, said first gate dielectric having a first coefficient of thermal expansion;

a first gate electrode situated over said first gate dielectric, said first gate electrode having a second coefficient of thermal expansion;

wherein said first gate electrode and said first gate dielectric are selected such that said first coefficient of thermal expansion is greater than said second coefficient of thermal expansion so as to cause an increase in carrier mobility in said channel, and wherein said FET is a PFET.

**Claims 16-18 (canceled)**

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**Claim 19 (previously presented):** The FET of claim 15 wherein said first coefficient of thermal expansion is greater than said second coefficient of thermal expansion so as to cause said increase in said carrier mobility by causing a compressive strain in said channel.

**Claim 20 (canceled)**

**Claim 21 (previously presented):** The FET of claim 15 wherein said first gate dielectric has a thickness of between 10.0 Angstroms and 15.0 Angstroms.